



# TRANSPORTATION CORRIDOR CONCEPT REPORT STATE ROUTE 28



The Transportation Corridor Concept Report (TCCR) is Caltrans' long range (20-year) planning document for each State Highway Route. The purpose and need of each TCCR are to identify existing route conditions and future needs, including existing and forecasted travel data, a concept level of service (LOS) standard, and the facility needed to maintain the concept LOS and address mobility needs over the next 20 years.

## Approvals:

  
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## Project Data Glossary

Information in the following Segment Summaries may contain the following acronyms, defined here for your reference:

- **COMPLETE STREETS** Complete streets are designed and operated to enable safe and efficient access for all legal users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities should be able to move safely along and across corridors. This applies in rural, suburban, and urban areas. The Department's policy in regard to Complete Streets is expressed in its document, Deputy Directive 64 R1 "The Department views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system."
- **STIP** Refers to the State Transportation Improvement Program, which is a biennial document adopted no later than April 1 of each even numbered year. Each STIP includes a five year period and adds two new years of programming capacity. Each new STIP includes projects carried forward from the previous STIP plus new projects and reserves from among those proposed by regional agencies in their regional transportation improvement programs (RTIPs) and by Caltrans in its Interregional Transportation Improvement Program (ITIP).
- **SHOPP** Refers to either the 4-year "State Highway Operations and Protection Program" of Highway Maintenance or Improvement projects or to the associated 10-Year SHOPP Plan.
- **RTP** Regional Transportation Plan is the title given by the Tahoe Regional Planning Agency (TRPA) to their Long-Range Transportation Plans, produced according to guidelines adopted by the California Transportation Commission based on Federal and State requirements.
- **RTIP** Regional Transportation Improvement Program is the title given by TRPA to their programming documents, which are produced according to guidelines adopted by the California Transportation Commission.

## Segment Summary Information

The following pages provide summaries of SR 28. These summaries provide a segment overview, traffic analysis data, and a list of future projects. Reference maps are also provided. Needed improvement projects appear in one of three categories—Planned, Programmed, or Conceptual

- A **Planned** Improvement or Action is a project in a long-term financially constrained plan such as an approved Regional Transportation Plan (RTP or MTP) or Capital Improvement Plan.
- A **Programmed** Improvement or Action is a project in a near-term Programming Document identifying funding amounts by year, such as the State Transportation Improvement Program or the State Highway Operations and Protection Program.
- A **Conceptual** Improvement or Action is a project that is needed to maintain mobility or serve multimodal users, but is not currently included in a financially constrained plan and is not currently programmed.

## State—Local Responsibility

Improvements to the State Highway System are the responsibility of both Caltrans and partner agencies. Developments affecting this State Route and the regional State Highway System may necessitate local jurisdictions to provide nexus-based proportional fair-share funding for future highway improvements and other transportation system improvements.



## State Route 28 Summary

State Route (SR) 28 is part of the circular route around Lake Tahoe that extends from SR 89 in Tahoe City to the Nevada state line. SR 28 is a two to four-lane conventional highway that passes through the communities of Tahoe City, Carnelian Bay, Tahoe Vista, Kings Beach, and Brockway. SR 28 is part of the Interregional Roads System (IRRS), and the Surface Transportation Assistance Act (STAA) truck network.

This TCCR divides SR 28 into three segments. Segments 1 and 3 are two lane conventional highways, while Segment 2 is a four lane conventional highway. However, Segment 2 will be reduced to three lanes through Kings Beach as part of the Kings Beach Commercial Core Project, and through restriping in Tahoe Vista. The Tahoe Vista "Road Diet" portion would reduce the through lanes between Estates Drive and Beach Street to three lanes for most of the segment, with one lane in each direction and a center turn lane, and with bike lanes in both directions and parking on the lake side.

The Tahoe Regional Planning Agency (TRPA) is the responsible agency within the Tahoe Basin for transportation issues, and is the lead agency in identifying transportation strategies and projects. TRPA generally does not pursue capacity increasing projects in order to preserve the unique character of the basin and maintain the water quality of the lake.

Population along SR 28 has generally declined over the last ten years, due mainly to the current economic recession, and a shifting away from gaming as a main economic stimulus. According to TRPA's Regional Plan Update, focus in the future will be on developing the basin into a residential and tourist destination. This shift in vision will increase demand for bicycle and pedestrian facilities. SR 28 has bicycle facilities that range from Class I bike routes in Segment 1, east of Tahoe City, to facilities where bicyclists must share the travel lane with motorists. With the Placer 28 Environmental Improvement Project (EIP) project, Class 2 bike lanes will be provided between Tahoe City and Kings Beach.

Caltrans has several EIP's planned along SR 28. These projects will reconstruct drainage systems by widening shoulders and constructing curb, gutter, dikes, and culverts to convey storm water into treatment systems. The treated storm water will ultimately lead to less sediment reaching the lake which will provide a cleaner and clearer Lake Tahoe.

The Tahoe Area Regional Transit Agency (TART) is operated by the Placer County Department of Public Works and offers fixed route transit service on SR 28. The service operates year round and offers evening service free of charge during the summer months via the Tahoe Trolley. SR 28 is also served by the Blue Line of the North Lake Tahoe Express, which offers service from Reno Tahoe International Airport, with stops in Kings Beach, Tahoe Vista and Carnelian Bay.

The Tahoe City Transit Center Project is planned for completion in 2011 near the SR 89/SR 28 Junction, and will be the hub for all transit operations on the North Shore. The Transit Center will serve all modes, including bicyclists and pedestrians, and once completed the Center will reduce traffic congestion and improve air quality. The Center will have electronic message boards that show bus locations using GPS technology, in addition to automated ticket machines.

The Caltrans District 3 State Highways Bicycle Plan is currently in development. It will identify the vision for bicycle use of State Highways, as well as a detailed inventory of existing facilities and needed improvements to appropriately accommodate bicycling on State Highways, including SR 28. This Plan will provide guidance for Caltrans and input to the local and regional bicycle planning activities of our external partner agencies. The information in the Bike Plan will be incorporated into future updates of the SR 28 TCCR.



# State Route 28 TCCR Traffic Data *(continued on next page)*

Location					Forecasted LOS and Facility Type					
Segment	Description	County	Post Mile From	Post Mile To	Current LOS <sup>1</sup>	20-Year LOS (No Build) <sup>2</sup>	20-Year Concept LOS <sup>3</sup>	Existing Facility <sup>4,5</sup>	Concept Facility <sup>6</sup>	Ultimate Facility <sup>7</sup>
1	JCT. SR 89 to Estates Drive in Tahoe Vista	PLA	0.09	7.77	E	E	E	2C	2C	2C
2	Estates Drive to Chipmunk Street	PLA	7.77	10.22	B	E	E	4C	2C/4C	2C
3	Chipmunk Street to Nevada State Line	PLA	10.22	11.02	E	E	E	2C	2C	2C

## Notes/Definitions

1. **Level of Service (LOS):** A "report card" measurement with "A" being the least amount of congestion and "F" being the most congestion.

LOS A



LOS B



LOS C



LOS D



LOS E



LOS F



LOS A – Free Flowing Conditions.

LOS B – Speeds at or near free-flow speed, but presence of other users begins to be noticeable.

LOS C – Speeds at or near free-flow speed, but freedom to maneuver is noticeably restricted.

LOS D – Speeds begin to decline slightly with increasing flow; freedom to maneuver is more restricted.

LOS E – Operating conditions at or near roadway capacity. Even minor disruptions to the traffic stream can cause delay.

LOS F – Breakdown in vehicle flow. Queues form quickly behind point in the roadway where the arrival flow rate temporarily exceeds the departure rate.

2. **20-Year LOS (No Build):** The LOS that would be expected at 20 years with no improvements.
3. **20-Year Concept LOS:** The minimum acceptable LOS over the next 20 years.
4. **Facility Type Codes:** C (Conventional Highway); E (Expressway); F (Freeway); HOV (High Occupancy Vehicle lanes); and Aux (Auxiliary lanes).
5. **Operational Improvements** are included in future facilities for all segments. Examples of operational improvements include Traffic Operations Systems improvements and Auxiliary Lanes.
6. **Concept Facility:** the future roadway with improvements needed in the next 20 years. If LOS F, no further degradation of service from existing F is acceptable, as indicated by delay performance measurement
7. **Ultimate Facility:** The future roadway with improvements needed beyond a 20 year timeframe.
8. **Peak Directional Split:** The percentage of total traffic in the heaviest traveled direction during the peak hour.
9. **Average Annual Daily Traffic (AADT):** The average number of vehicles per day in both directions.
10. **Volume over Capacity (V/C):** The volume of traffic compared to the capacity of the roadway.
11. **Volume over Capacity does not determine LOS** for two- or three- lane facilities, or segments with intersection delay.
12. **Reported Collision Rate Index:** The percentage by which each segment's reported collisions rate (fatal, injury, and property-damage-only) is above or below the statewide average reported collisions rate on comparable facilities. Source: 3-Year Caltrans Traffic Accident Surveillance and Analysis System data.



Current Traffic Data—2009					Prior 3 Years	Future Traffic Data—2029 No Build			Future Traffic Data—2029 Build		
% of Trucks	Directional Split <sup>8</sup>	Peak Hour Traffic	Average Annual Daily Traffic <sup>9</sup>	Volume Over Capacity <sup>10, 11</sup>	Safety Index <sup>12</sup>	Peak Hour Traffic	Average Annual Daily Traffic <sup>9</sup>	Volume Over Capacity	Peak Hour Traffic	Average Annual Daily Traffic <sup>9</sup>	Volume Over Capacity <sup>10, 11</sup>
4%	56%	1,750	15,200	0.64	+19%	2,100	18,240	0.77	NA	NA	NA
4%	53%	2,050	16,100	0.32	+82%	2,460	19,320	0.39	2,255	17,710	0.88
4%	52%	1,600	13,200	0.59	-33%	1,920	15,810	0.71	NA	NA	NA



SR 28 near Agate Bay



# State Route 28 Segments 1 & 2 Summary



**Segment 1 - Junction SR 89 to Estates Drive, PM 0.09 / 7.77**

Segment 1 is a two lane conventional highway that begins at the junction of SR 89 in Tahoe City and serves as the main arterial through the communities of Tahoe City, Dollar Point, Carnelian Bay, and ending at Estates Drive in Tahoe Vista.

While the majority of this segment is a two lane conventional highway, it becomes three lanes, one travel lane in each direction with a continuous center turn lane, in Tahoe City from post mile 0.08 to post mile 0.68. This segment also briefly becomes three lanes in Carnelian Bay from post mile 5.71 to post mile 6.08. Class II bike lanes will be installed as part of Caltrans EIP project from Tahoe City to Kings Beach.

While the LOS in this segment is E, it can degrade to LOS F during peak periods, particularly in the summer months in and around downtown Tahoe City. This is due to the number of shops, restaurants, pedestrian traffic, and parking. However, as the facility is not expected to decline below the standard LOS, no major improvements are necessary within the 20-year planning period.



**Segment 2 - Estates Drive to Chipmunk Street, PM 7.77 / 10.22**

Segment 2 is a four-lane conventional highway which begins at Estates Drive in Tahoe Vista and ends at Chipmunk Street in Kings Beach. This segment reduces to three lanes in Tahoe Vista from post mile 7.77 to post mile 8.48

Segment 2 is the main arterial through the communities of Tahoe Vista and Kings Beach. This segment travels through one of the primary commercial and recreational cores on the north side of Lake Tahoe. Traffic can be heavy along this segment, especially during peak tourist seasons. In addition, there is heavy pedestrian and bicycle traffic along this segment and facilities are needed for improved bicycle and pedestrian mobility.

The SR 28/Kings Beach Commercial Core Improvements will address many of the needs along this segment by constructing frontage improvements along SR 28, improving water quality, and improving bicycle and pedestrian facilities. As part of this project there will be a lane reduction from four lanes to three-lanes between SR 267 and Chipmunk Street.

This segment operates at LOS B; however, with the proposed lane reduction the LOS is expected to decline to LOS E within the 20-year planning period.

## Highway Improvement Projects

(Construction Cost in Millions (M); Construction Completion Year)

### Segment 1

#### Planned Projects:

- None

#### Programmed Projects:

- EIP — Tahoe State Park to Stateline, PM 0.8/PM 11.0, (\$33M; 2011) SHOPP

#### Conceptual Projects:

- Implement Complete Streets policy where appropriate

### Segment 2

#### Planned Projects:

- Construct bike lanes from Jct. SR 267 to Chipmunk.(\$2.1M; 2015) TRPA RTP Mobility 2030

#### Programmed Projects:

- Kings Beach Commercial Core Improvement Project to enhance pedestrian/bicycle mobility and provide stormwater runoff improvements(\$45M; 2015) STIP
  - EIP—Tahoe Vista "Road Diet" reduces through lanes between Estates Drive and Beach Street to three lanes for most of the segment, with one lane in each direction and a center turn lane, and with bike lanes in both directions and parking on the lake side.
  - EIP-Tahoe State Park to Stateline, PM 0.8/PM 11.0, (\$33M; 2011) SHOPP

#### Conceptual Projects:

- Implement Complete Streets policy where appropriate



# State Route 28 Segment 3 Summary



**Segment 3 - Chipmunk Street to Nevada State Line,**  
PM 10.22 / 11.02

## Highway Improvement Projects

(Construction Cost in Millions (M); Construction Completion Year)

### Segment 3

#### Planned Projects:

- Proposed pedestrian facility from Chipmunk Street to Stateline Road (\$6.3M; TBD) Lake Tahoe Region Bicycle and Pedestrian Plan 2010

#### Programmed Projects:

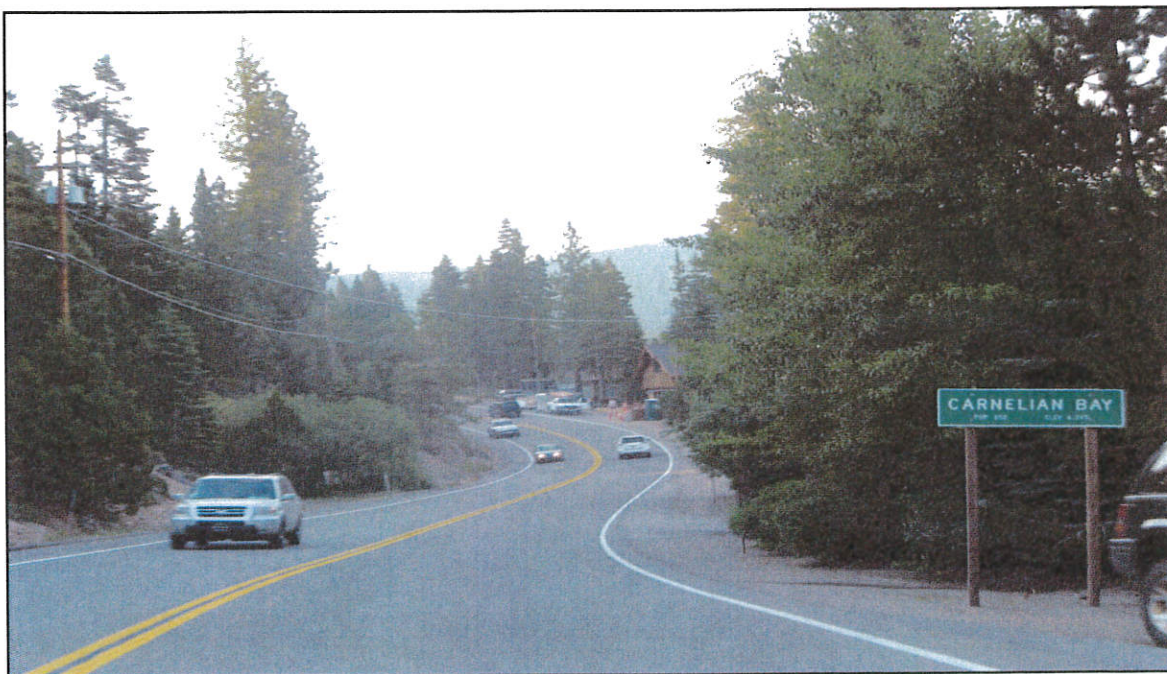
- EIP — Tahoe State Park to Stateline, PM 0.8/PM 11.0, (\$33M; 2011) SHOPP

#### Conceptual Projects:

- Implement Complete Streets policy where appropriate.

Segment 3 is a conventional two-lane highway from Chipmunk Street to the Nevada State Line. Highway traffic in this segment is a combination of recreational and local traffic. The land use in this segment is mainly residential housing with some commercial uses. Across the Nevada state line are casinos with hotel/motel facilities. There is a Class II bike lane in both directions along this segment and limited pedestrian facilities. However, the 2010 Lake Tahoe Region Bicycle and Pedestrian Plan identifies the construction of a pedestrian facility from Chipmunk Street to Stateline Road.

This short segment operates at LOS E due mainly to numerous curves, slow moving truck traffic and residential driveways. As the facility is not expected to decline below the standard LOS, no major improvements are necessary within the 20-year planning period.



**SR 28 in Carnelian Bay**





# STATE ROUTE 28 SEGMENT MAP



**Please contact us for questions and concerns about this TCCR:**  
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<http://www.dot.ca.gov/dist3/departments/planning/systemplanning.html>